

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for October, 1898, is based on about 2,940 reports from stations occupied by regular and voluntary observers, classified as follows: 147 from Weather Bureau stations; numerous special river stations; 32 from post surgeons, received through the Surgeon General, United States Army; 2,583 from voluntary observers; 96 received through the Southern Pacific Railway Company; 29 from Life-Saving stations, received through the Superintendent United States Life-Saving Service; 31 from Canadian stations; 20 from Mexican stations; 7 from Jamaica, W. I. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; Dr. Mariano Bárcena, Director of the Central Meteorological and Magnetic Observatory of Mexico; Mr. Maxwell Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kim-

ball, Superintendent of the United States Life-Saving Service; and Commander J. E. Craig, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to generally conform to the modern international system of standard meridians, one hour apart, beginning with Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local meridian is mentioned.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

During the last two days of September, 1898, a storm developed in the vicinity of the island of Santo Domingo, and moved thence northwestward to the south Atlantic coast of the United States, where it raged with hurricane violence during October 2. A detailed account of this disturbance, and of the action of the Weather Bureau in issuing warnings of its approach is given in the description of the storm which follows, and its track is plotted on Chart II.

Conservative estimates place the damage caused by this storm in Georgia and Florida at \$1,500,000. The value of vessels and cargoes detained by the Weather Bureau warnings of Saturday, October 1, was \$380,000, and the crews numbered 56. These were sailing vessels and would doubtless have suffered the fate of those caught at sea. At Savannah the warnings prompted active measures for the protection of shipping and merchandise, and credit is given the warnings by representatives of business and marine interests, for a saving of many thousands of dollars. At Charleston vessels and cargoes valued at nearly \$1,000,000, remained in port.

Two storms of unusual severity crossed the upper lakes, one on the 17th and 18th, and the other on the 25th and 26th; on the lower Lakes the severest storm of the month occurred on the 26th and 27th.

No wind storms of marked severity occurred on the Pacific coast during October, 1898.

THE WEST INDIAN HURRICANE OF SEPTEMBER 29-OCTOBER 2.

The Weather Bureau West Indian reports of September 28, 1898, indicated the formation of a cyclonic storm in the neighborhood of Puerto Rico, and during September 29 the circulation of the winds, the character and movement of the clouds, and the action of the barometer showed that the central area of the disturbance had moved to a position off the northern coast of Santo Domingo. During September 30 the center moved north of west over the old Bahamas Channel and began to recurve northward. Conforming to one of the laws of cyclonic disturbances the storm-center deepened during the recurve, and by the morning of October 1 its influence had extended to the Florida coast. Advisory messages were sent to south Atlantic ports at 9:50 a. m., giving the position of the storm and stating that high north to northeast winds would prevail along those coasts. Special noon and 3 p. m. observations showed that the center of disturbance was approaching our southeastern coasts. Storm northeast signals were ordered from Key West to Norfolk, and the following warning was communicated to the Bureau of Navigation, Navy Department, Washington, the New York and Philadelphia Maritime Exchanges, and generally to Atlantic coast and east Gulf maritime interests:

Storm approaching the Florida coast near Jupiter. Dangerous shift-